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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/736,135	<b>Applicant(s)</b> CREAMER ET AL.	
	<b>Examiner</b> Marisol Figueroa	<b>Art Unit</b> 2681	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-45 and 47-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-45 and 47-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Action is in response to Applicant's Amendment filed on 12/07/2005. Claims 10 and 46 were cancelled. Claims 1-9, 11-45, and 47-59 are pending in the present application.

#### ***Response to Amendment***

2. The declarations and evidence filed on 12/07/2005 under 37 CFR 1.131 is sufficient to overcome the Mousseau et al., Jagadeesan et al., and Belkin et al. references.

#### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-9, 11-45, and 47-59 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Objections***

4. Claim 47 objected to because of the following informalities:  
  
(a) Claim 47 should apparently be dependant on claim 43 given that claim 46 was cancelled.  
  
Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an

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application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 13, 14, 48, and 50 are rejected under 35 U.S.C. 102(e) as being anticipated by Fors et al. (US 2004/0203788 A1).

**Regarding claim 13**, Fors discloses a method of roaming between a cellular network and a wireless network comprising the steps of:

during an established cellular call, detecting a signal from the wireless network (p.0015, lines 5-7; the mobile station while is being serviced by a cellular base station, e.g. established cellular call, monitors WLAN availability, e.g. detect signals from wireless networks);

comparing a measure of strength of the signal received from the wireless network with a measure of strength of a signal received from the cellular network; and initiating a handoff of the cellular call from the cellular network to the wireless network according to said comparing step (p.0015, lines 5-11; according to the relative signal strength, e.g. comparison, of the cellular and WLAN the mobile station initiates handoff).

**Regarding claim 14**, Fors discloses the method of claim 13, wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0016, lines 8-10).

**Regarding claim 49**, Fors discloses a machine readable storage, having stored thereon a computer program having a plurality of code sections executable by a machine for causing the machine to perform the steps of:

during an established cellular call over a cellular network, detecting a signal from a wireless network (p.0015, lines 5-7; the mobile station while is being serviced by a cellular base station, e.g. established cellular call, monitors WLAN availability, e.g. detect signals from wireless networks);

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comparing a measure of strength of the signal received from the wireless network with a measure of strength of a signal received from the cellular network; and initiating a handoff of the cellular call from the cellular network to the wireless network according to said comparing step (p.0015, lines 5-11; according to the relative signal strength, e.g. comparison, of the cellular and WLAN the mobile station initiates handoff).

Fors inherently has the *machine readable storage* medium given that Fors shows a process, the process would be implemented by a processor that requires a "computer readable storage", e.g. a RAM, to function.

**Regarding claim 50**, Fors discloses the machine readable storage of claim 49, wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0016, lines 8-10).

7. **Claims 20, 21, 22, 23, 33, 35, 36, and 56-59** are rejected under 35 U.S.C. 102(e) as being anticipated by Sundar et al. (US 2003/0134636 A1).

**Regarding claim 20**, Sundar discloses a method of roaming between a cellular network and a wireless network comprising the steps of:

during an established call over the wireless network, detecting the cellular network; establishing a communications link with a mobile data base station of the cellular network, such that a streaming session in the wireless network over which the call is conducted is terminated; and continuing the call over a voice channel of the cellular network (p.0077, lines 1-5; p.0078, lines 1-7; when the mobile station engaged in a telephone call through the WLAN and roams to the cellular network, it detects a signal from the cellular network and if the signal strength is stronger than the signal from WLAN, the mobile station initiates a handover that transfers the current call to the cellular network).

**Regarding claim 21**, Sundar discloses the method of claim 20, wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7).

**Regarding claim 22**, Sundar discloses a method of roaming between a cellular network and a wireless network comprising the steps of:

during an established call conducted over the wireless network using a streaming session, detecting a signal from the cellular network (p.0077, lines 1-5);

comparing a measure of strength of the signal received from the cellular network with a measure of strength of a signal received from the wireless network; and initiating a handoff of the call from the wireless network to the cellular network according to said comparing step (p.0078, lines 1-7; the mobile station while engaged in a call using the WLAN network initiate handoff by informing to the serving MSC that a handoff is required, this message is triggered when the mobile station senses the WLAN and the WWAN and chooses one of the networks based on the relative RF strengths of the WLAN and the WWAN).

**Regarding claim 23**, Sundar discloses the method of claim 22, wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7).

**Regarding claim 33**, Sundar discloses a system for roaming between a cellular network and a wireless network comprising: means for detecting a signal from the wireless network during an established cellular call (p.0073; p.0077, lines 1-5); means for comparing a measure of strength of the signal received from the wireless network with a measure of strength of a signal received from the cellular network; and means for initiating a handoff of the cellular call from the cellular network to the wireless network according to a comparison made by said means for comparing (p.0073; p.0078,

lines 1-7; the mobile station while engaged in a call using the WLAN network initiate handoff by informing to the serving MSC that a handoff is required, this message is triggered when the mobile station senses the WLAN and the WWAN and chooses one of the networks based on the relative RF strengths of the WLAN and the WWAN).

**Regarding claim 35**, Sundar discloses a system for roaming between a cellular network and a wireless network comprising: means for detecting the cellular network during an established call over the wireless network (p.0073; p.0077, lines 1-5); means for establishing a communications link with a mobile data base station of the cellular network (p.0073; WWAN air interface protocol), such that a streaming session in the wireless network over which the call is conducted is terminated; and means for continuing the call over a voice channel of the cellular network (p.0078, lines 1-7; when the mobile station engaged in a telephone call through the WLAN and roams to the cellular network, it detects a signal from the cellular network and if the signal strength is stronger than the signal from WLAN, the mobile station have means to initiate a handover that transfers the current call to the cellular network).

**Regarding claim 36**, Sundar discloses a system for roaming between a cellular network and a wireless network comprising: means for detecting a signal from the cellular network during an established call conducted over the wireless network using a streaming session (p.0073; p.0077, lines 1-5); means for comparing a measure of strength of the signal received from the cellular network with a measure of strength of a signal received from the wireless network; and means for initiating a handoff of the wireless call from the wireless network to the cellular network according to a comparison made by said means for comparing (p.0073; p.0078, lines 1-7; the mobile station while engaged in a call using the WLAN network initiate handoff by informing to the serving MSC that a handoff is required, this message is triggered when the mobile station senses the WLAN and the

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WWAN and chooses one of the networks based on the relative RF strengths of the WLAN and the WWAN).

Regarding claims 56, 57, 58, and 59, the claims are rejected over the same reasons stated about claims 20, 21, 22, and 23 accordingly, as they recite the same limitations of claims 20, 21, 22, and 23. See remarks about claims 20, 21, 22, and 23 above.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4, 31, and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Ibe et al. (US 2004/0087307), and Fors et al.

Regarding claim 1, Sundar discloses a method of roaming between a cellular network and a wireless network (p.0057, lines 1-5; p.0080, lines 1-6) comprising the steps of:

receiving an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the target MSC, e.g. WLAN MSC, receives a handoff request [Fig. 20, SIP INVITE] from the mobile station when it senses the RF strength of the WLAN network); wherein the invitation is sent from a mobile communications device engaged in a cellular call over a cellular voice channel (p.0084, lines 10-12);



sending an acknowledgement of the invitation to the mobile communications device over the wireless network (p.0084, lines 13-14; the target MSC acknowledges the request [Fig.20, SIP 200 OK]); and

initiating a handoff (p.0084, lines 14-31; the MSC sends an HO COMMAND to the MS and the MS acknowledges the command and the handoff is commenced by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks).

Sundar fails to disclose the step of authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be on the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

However, the combination of Sundar and Ibe fails to disclose wherein the handoff was initiated based on the comparison of the strength of detected signals from both the cellular network and the wireless network. Fors teaches a method for handoff from a cellular wireless network to a non-cellular wireless network (e.g. WLAN), in which a dual mode Mobile Station can determine when a handoff to a non-cellular network is preferred, by for example monitoring the WLAN availability while is being served by a cellular BS and based on conditions like the relative signal strength of the cellular and WLAN (e.g. comparison), the MA may request handing to the WLAN

(abstract; p.0015). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to compare the strength of the detected signals from both the cellular network and wireless network and initiate a handoff based on the comparison as suggested by Fors, because by comparing the signal strength of both networks the mobile station can determine when handoff to the WLAN network is preferred and request the handing.

**Regarding claim 2**, the combination of Sundar, Ibe, and Fors disclose the method of claim 1, Sundar discloses wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7; a WLAN network according to the 802.xx protocols).

**Regarding claim 3**, the combination of Sundar, Ibe, and Fors disclose the method of claim 1, Sundar discloses wherein the invitation is formatted using Session Initiation Protocol (p.0057, lines 13-17; p.0084, lines 10-13; the handoff request message, i.e. invitation, is sent using SIP).

**Regarding claim 4**, the combination of Sundar, Ibe, and Fors disclose the method of claim 1, Sundar discloses wherein said initiating step comprises the step of a gateway sending a communication to a mobile switching center indicating that the mobile communications device has received a signal having a minimum amount of power from a wireless access point in the wireless network (p.0084, lines 1-14; the handoff starts when the BSC serving the mobile station decides that handoff is required based on information received from MS using the Network Sensing Method [sensing the RF strength in the proximity of the WLAN for deciding when to start using the WLAN network] and sends a handoff required message to the Source MSC, it is inherent to recognize that the handoff required message is triggered by a minimum amount of power received at the MS, therefore the handoff required message is an indication that a received signal contains a minimum amount of power from an access point of a WLAN).

**Regarding claim 31**, Sundar discloses a system for roaming for roaming between a cellular network and a wireless network (abstract, lines 1-4; p.0057, lines 1-5; p.0080, lines 1-6) comprising:

means for receiving an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the target MSC, e.g. WLAN MSC, receives a handoff request [Fig. 20, SIP INVITE] from the mobile station when it senses the RF strength of the WLAN network); wherein the invitation is sent from a mobile communications device engaged in a cellular call over a cellular voice channel (p.0084, lines 10-12);

means for sending an acknowledgement of the invitation to the mobile communications device over the wireless network (p.0084, lines 13-14; the target MSC sends an acknowledgement of the request [Fig.20, SIP 200 OK]); and

means for initiating a handoff (p.0084, lines 14-31; the MSC initiates the handoff sending an HO COMMAND to the MS), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks).

Sundar fails to disclose means for authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include means for authentication, i.e. authentication server, to authenticate the communications device over the wireless network as taught by Ibe, in order to initialize the mobile device and be authorized to receive service from the wireless network.

However, the combination of Sundar and Ibe fails to disclose wherein the system comprises means for comparing the signal strength of detected signals from both the cellular network and the wireless network and initiating the handoff from the comparison. Fors teaches a method for handoff from a cellular wireless network to a non-cellular wireless network (e.g. WLAN), in which a dual mode Mobile Station can determine when a handoff to a non-cellular network is preferred, by for example monitoring the WLAN availability while is being served by a cellular BS and based on conditions like the relative signal strength of the cellular and WLAN (e.g. comparison), the MA may request handing to the WLAN (abstract; p.0015). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to compare the strength of the detected signals from both the cellular network and wireless network and initiate a handoff based on the comparison as suggested by Fors, because by comparing the signal strength of both networks the mobile station can determine when handoff to the WLAN network is preferred and request the handing.

**Regarding claim 37**, Sundar discloses a machine readable storage, having stored thereon a computer program having a plurality of code sections executable by a machine for causing the machine to perform the steps of:

receiving an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the target MSC, e.g. WLAN MSC, receives a handoff request [Fig. 20, SIP INVITE] from the mobile station when it senses the RF strength of the WLAN network); wherein the invitation is sent from a mobile communications device engaged in a cellular call over a cellular voice channel (p.0084, lines 10-12);

sending an acknowledgement of the invitation to the mobile communications device over the wireless network (p.0084, lines 13-14; the target MSC acknowledges the request [Fig.20, SIP 200 OK]); and

initiating a handoff (p.0084, lines 14-31; the MSC sends an HO COMMAND to the MS and the MS acknowledges the command and the handoff is commenced by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks). Sundar inherently has the *machine readable storage* medium given that Sundar shows a process, the process would be implemented by a processor that requires a "computer readable storage", e.g. a RAM, to function.

Sundar fails to disclose the step of authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

However, the combination of Sundar and Ibe fails to disclose wherein the system comprises means for comparing the signal strength of detected signals from both the cellular network and the wireless network and initiating the handoff from the comparison. Fors teaches a method for handoff from a cellular wireless network to a non-cellular wireless network (e.g. WLAN), in which a dual mode Mobile Station can determine when a handoff to a non-cellular network is preferred, by for

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example monitoring the WLAN availability while is being served by a cellular BS and based on conditions like the relative signal strength of the cellular and WLAN (e.g. comparison), the MA may request handing to the WLAN (abstract; p.0015). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, to compare the strength of the detected signals from both the cellular network and wireless network and initiate a handoff based on the comparison as suggested by Fors, because by comparing the signal strength of both networks the mobile station can determine when handoff to the WLAN network is preferred and request the handing.

**Regarding claims 38, 39, and 40**, the claims are rejected over the same reasons stated about claims 2, 3, and 4 accordingly, as they recite the same limitations of claims 38, 39, and 40. See remarks about claims 2, 3, and 4 above.

10. **Claims 5 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Ibe et al., and Fors et al., and further in view of Chaskar et al. (US 2004/0090937 A1).

**Regarding claim 5**, the combination of Sundar, Ibe, and Fors disclose the method of claim 4, however fails to address wherein said initiating step further comprises the step of setting up an Internet Protocol streaming session over the Internet and the wireless network to which the cellular call is switched. Chaskar teaches that a user while in the coverage area of a WLAN can initiate an Internet session such as a voice over IP (VoIP) call or a multimedia conferencing call (p.0020, lines 1-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to setting up an Internet Protocol streaming session over the Internet and the wireless network as taught by Chaskar, because a wireless network, i.e. WLAN, support the initiation of Internet sessions.

**Regarding claim 41**, the claim is rejected about the same reasons stated about claim 5, as it recites the same limitations of claim 5. See remarks about claim 5 above.

11. **Claims 6 and 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Ibe et al., Fors et al., and Chaskar et al., and further in view of Pan et al. (US 2004/0192294 A1).

**Regarding claim 6**, the combination of Sundar, Ibe, Fors, and Chaskar disclose the method of claim 5, but fails to disclose further comprising the step of tearing down the cellular call. Pan teaches a method and apparatus that enables handover of a mobile station between a cellular network and a wireless network, a media gateway perform handover of a call from one network to another, it establishes two connections simultaneously with both networks (e.g. first call leg and second call leg) and then handovers the communication from the first call leg to the second call leg, and disconnects the first call leg after handover has been completed (abstract; p.0023-0025). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to tear down the cellular call after the handoff is complete as suggested by Pan, because the wireless communication device does not need to continue the cellular call when the handoff to the wireless network is successful.

**Regarding claim 42**, the claim is rejected about the same reasons stated about claim 6, as it recites the same limitations of claim 6. See remarks about claim 6 above.

12. **Claims 7-9, 11, 12, 32, 43-45, 47, and 48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Ibe et al., and Lowdon (US 6,073,019).

**Regarding claim 7**, Sundar discloses a method of roaming between a cellular network and a wireless network (p.0057, lines 1-5; p.0080, lines 1-6) comprising the steps of:

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during an established cellular call using a cellular voice channel, detecting the wireless network within a mobile communications device (p.0080; p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; a mobile station while roaming senses the RF strength in the proximity of the WLAN);

sending an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the mobile station sends a handoff request [Fig. 20, SIP INVITE] to the target MSC, e.g. WLAN MSC, when it senses the RF strength of the WLAN network while engaged in a call) to a gateway interface linking the cellular network with the Internet (Fig. 15, WLAN MSC 320 linked to IP, i.e. internet);

receiving an acknowledgement of the invitation (p.0084, lines 13-14; the target MSC acknowledges the request [Fig.20, SIP 200 OK]); and

initiating a handoff (p.0084, lines 14-31; the MSC sends an HO COMMAND to the MS and the MS acknowledges the command and the handoff is commenced by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks).

Sundar fails to disclose the step of authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless



network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

However, the combination of Sundar and Ibe fails to disclose wherein the initiating comprises attenuating a signal provided to the cellular network from the mobile communications device, thereby causing the cellular network to handoff the cellular call. Lowdon teaches a radiotelephone that incorporates an attenuator for reducing the strength of the first radio field (e.g. connection) to cause a mobile radio to initiate call handover to a second radio field. (col.1, line 44 – col.2, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, for the initiating comprises attenuating a signal provided between the mobile communication device and the base station to cause handoff of a cellular call as suggested by Lowdon, in order to maintain communication with the cellular network until handover to the wireless network is completed.

**Regarding claim 8**, the combination of Sundar, Ibe, and Lowdon disclose the method of claim 7, Sundar further discloses wherein the invitation is sent only if a signal detected from the wireless network is more powerful than a signal from the cellular network (p.0080; p.0083; p.0084, lines 1-13; the mobile station sends an Invite, e.g. handoff request, to the network when it senses the RF strength in the proximity of the WLAN and determines that needs to handoff, e.g. signal from the WLAN is more powerful than the signal from the cellular network).

**Regarding claim 9**, the combination of Sundar, Ibe, and Lowdon disclose the method of claim 7, Sundar further discloses wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7; a WLAN network according to the 802.xx protocols).

**Regarding claim 11**, the combination of Sundar, Ibe, and Lowdon disclose the method of claim 7, Sundar further discloses wherein said initiating step comprises the step of a gateway sending a communication to a mobile switching center indicating that the mobile communications device has received a signal of adequate power from an access point in the wireless network (p.0084, lines 1-14; the handoff starts when the BSC serving the mobile station decides that handoff is required based on information received from MS using the Network Sensing Method [sensing the RF strength in the proximity of the WLAN for deciding when to start using the WLAN network] and sends a handoff required message to the Source MSC, it is inherent to recognize that the handoff required message is triggered by a signal of adequate power received at the MS, therefore the handoff required is a message is an indication that a received signal contains adequate power from the WLAN to handoff to that network).

**Regarding claim 12**, the combination of Sundar, Ibe, and Lowdon disclose the method of claim 7, Sundar further discloses wherein the acknowledgement is sent from a gateway interface (Fig. 15, WLAN MSC 302 between IP and PSTN/TDM) between the cellular network and the Internet (p.0084, lines 10-14; the target MSC, i.e. WLAN MSC, sends an acknowledgement to the mobile station).

**Regarding claim 32**, Sundar discloses a system for roaming between a cellular network and a wireless network (abstract, lines 1-4; p.0057, lines 1-5; p.0080, lines 1-6) comprising:

means for detecting the wireless network within a mobile communications device during an established cellular call using a cellular voice channel (p.0080; p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; a mobile station while roaming senses the RF strength in the proximity of the WLAN, it is inherently that the mobile station has means for detecting the wireless network, e.g. antenna);

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means for sending an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the mobile station sends a handoff request [Fig. 20, SIP INVITE] to the target MSC, e.g. WLAN MSC, inherently the mobile station has means for sending an invitation, e.g. transmitter);

means for receiving an acknowledgement of the invitation (p.0084, lines 13-14; the target MSC sends an acknowledgement to the MS [Fig.20, SIP 200 OK]; inherently the MS has means for receiving an acknowledgement, e.g. receiver); and

means for initiating a handoff (p.0084, lines 14-31; the MSC are the means for initiating handoff because it sends an HO COMMAND to the MS and after the MS acknowledges it, the handoff begins by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks).

Sundar fails to disclose means for authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include means for authentication, i.e. authentication server, to authenticate the communications device over the wireless network as taught by Ibe, in order to initialize the mobile device and be authorized to receive service from the wireless network.

However, the combination of Sundar and Ibe fails to disclose wherein the initiating comprises attenuating a signal provided to the cellular network from the mobile communications

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device, thereby causing the cellular network to handoff the cellular call. Lowdon teaches a radiotelephone that incorporates an attenuator for reducing the strength of the first radio field (e.g. connection) to cause a mobile radio to initiate call handover to a second radio field. (col.1, line 44 – col.2, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, for the initiating comprises attenuating a signal provided between the mobile communication device and the base station to cause handoff of a cellular call as suggested by Lowdon, in order to maintain communication with the cellular network until handover to the wireless network is completed.

**Regarding claim 43**, Sundar discloses a machine readable storage, having stored thereon a computer program having a plurality of code sections executable by a machine for causing the machine to perform the steps of:

during an established cellular call using a cellular voice channel, detecting the wireless network within a mobile communications device (p.0080; p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; a mobile station while roaming senses the RF strength in the proximity of the WLAN);

sending an invitation over the wireless network (p.0083, lines 1-6; p.0084, lines 1-13; p.0085, lines 4-5; the mobile station sends a handoff request [Fig. 20, SIP INVITE] to the target MSC, e.g. WLAN MSC, when it senses the RF strength of the WLAN network while engaged in a call) to a gateway interface linking the cellular network with the Internet (Fig. 15, WLAN MSC 320 linked to IP, i.e. internet);

receiving an acknowledgement of the invitation (p.0084, lines 13-14; the target MSC acknowledges the request [Fig.20, SIP 200 OK]); and

initiating a handoff (p.0084, lines 14-31; the MSC sends an HO COMMAND to the MS and the MS acknowledges the command and the handoff is commenced by the BSC), wherein the established cellular call is switched from the cellular network to the wireless network (p.0057, lines 1-6; the telephone calls between the WWAN and WLAN networks). Sundar inherently has the *machine readable storage* medium given that Sundar shows a process, the process would be implemented by a processor that requires a "computer readable storage", e.g. a RAM, to function.

Sundar fails to disclose the step of authenticating the mobile communications device over the wireless network. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be tuned on in the WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

However, the combination of Sundar and Ibe fails to disclose wherein the initiating comprises attenuating a signal provided to the cellular network from the mobile communications device, thereby causing the cellular network to handoff the cellular call. Lowdon teaches a radiotelephone that incorporates an attenuator for reducing the strength of the first radio field (e.g. connection) to cause a mobile radio to initiate call handover to a second radio field. (col.1, line 44 – col.2, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention, for the initiating comprises attenuating a signal provided between the mobile communication device and the base station to cause handoff of a cellular call as suggested by

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Lowdon, in order to maintain communication with the cellular network until handover to the wireless network is completed.

**Regarding claim 44**, the claim is rejected over the same reasons stated about claim 8, as it recites the same limitations as claim 8. See remarks about claim 8 above.

**Regarding claim 45**, the claim is rejected over the same reasons stated about claim 9, as it recites the same limitations as claim 9. See remarks about claim 9 above.

**Regarding claim 47**, the claim is rejected over the same reasons stated about claim 11, as it recites the same limitations of claim 11. See remarks about claim 11 above.

**Regarding claim 48**, the claim is rejected over the same reasons stated about claim 12, as it recites the same limitations of claim 12. See remarks about claim 12 above.

13. **Claims 24, 29, and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in view of Khartabil et al (US 2004/0249891 A1).

**Regarding claim 24**, Sundar discloses a system for roaming between a cellular network and a wireless network comprising:

an access point configured to wirelessly communicate with devices and facilitate communications over the Internet (Fig. 15, WLAN 200 has a plurality of access points linked to IP ;

a gateway configured as an interface between the Internet and the cellular network (Fig. 15, WLAN MSC 302);

a mobile data base station configured to communicate with mobile communications devices over a cellular voice channel of the cellular network (Fig. 15, BTS); and

a mobile switching center configured to route cellular calls and link said mobile data base station with said gateway (Fig. 15, WWAN MSC 110);

wherein said gateway and said mobile switching center work cooperatively to switch calls between the cellular network and the wireless network via the Internet (p.0083-0084).

Sundar fails to disclose a Session Initiation Protocol proxy server configured to perform call routing over the Internet and wherein calls over the Internet are managed by said Session Initiation Protocol proxy server. Khartabil teaches that a proxy server is used to create SIP sessions such as Internet telephone calls, multimedia distribution, and multimedia conferences (p.0004). Therefore, it would have been obvious to one having ordinary skill in the art to include a SIP proxy server in the system, because a proxy server assists with the establishment of Internet sessions as taught by Khartabil.

**Regarding claim 29**, the combination of Sundar and Khartabil disclose the system of claim 24, wherein said gateway further is configured to function as an interface to the public switched telephone network (Fig. 15; WLAN MSC 302, i.e. gateway interfaces with the PSTN network).

**Regarding claim 30**, the combination of Sundar and Khartabil disclose the system of claim 24, Sundar discloses wherein a call has been established over the wireless network using a streaming session (p.0077, lines 1-8; the mobile station is engaged in a call with the WLAN network), wherein said gateway terminates the streaming session and transfers the call to said mobile switching center, said mobile switching center routing the call to said mobile data base station (p.0078; the handoff of the ongoing call is made from the WLAN to the WAN, when the MS enters a WWAN, it is inherent that the ongoing communication with the WLAN is terminated when the handover occurs to the WWAN).

14. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in view of Khartabil et al., and further in view of Ibe et al.

**Regarding claim 25**, the combination of Sundar and Khartabil disclose the system of claim 24, Sundar discloses wherein a call has been established over a voice channel of the cellular network (p.0083, lines 1-3), wherein said gateway receives an invite formatted using Session Initiation Protocol from a mobile communications device having detected the wireless network (p.0084, lines 10-13; Fig. 20, SIP INVITE). Sundar fails to disclose that the system authenticates a Session Initiation Protocol client operating in the mobile communications device. Ibe discloses a method of seamless roaming between wireless local area networks and cellular carrier networks (abstract, lines 1-6) and teaches that when a mobile device happens to be on a WLAN goes through an initialization process in which the mobile device sends a registration message to an authentication server that authenticates the mobile device (p.0017, lines 1-8). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communications device over the wireless network as taught by Ibe, since it is part of an initialization process the mobile device has to go through in order to be authorized to receive service from the wireless network.

15. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Khartabil et al., Ibe et al. and, further in view of Chaskar et al. (US 2004/0090937).

**Regarding claim 26**, the combination of Sundar, Khartabil, and Ibe disclose the system of claim 25, Sundar discloses wherein said gateway acknowledges the session initiation protocol invite (p.0084, lines 13-14; Fig. 20, SIP 200 OK). However fails to disclose to initiate an Internet Protocol streaming session to the mobile communications device. Chaskar teaches that a user while in the coverage area of a WLAN can initiate an Internet session such as a voice over IP (VoIP) call or a multimedia conferencing call (p.0020, lines 1-6). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to setting up an Internet Protocol



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streaming session over the Internet to the mobile communications device as taught by Chaskar, because a wireless network, i.e. WLAN, support the initiation of Internet sessions.

16. **Claims 27-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in views of Khartabil et al., Ibe et al., Chaskar et al., Fors et al., and Roach Jr. (US 5,845,211).

**Regarding claims 27 and 28**, the combination of Sundar, Khartabil, Ibe and Chaskar disclose the system of claim 26, but fails to disclose wherein said mobile switching center handoffs a cellular call to another mobile data base station upon detecting reduced signal power from the mobile communications device and said gateway signals said mobile switching center that a signal of sufficient power has been received via the wireless network, and further wherein said mobile switching center switches the call from the mobile data base station to the gateway. Roach teaches that in conventional wireless cellular networks call handoff are handled by MSCs and occurs when the wireless system determines a handoff is desirable when a first base station senses a signal below a predetermined threshold and the call is handed off from an original base station to another (col.1, line 47- col.2, lines 1-12) and further the mobile switching center switches the call from the mobile data base station to the gateway (p.0033). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for a mobile switching center to handoff a cellular call to another base station when detecting a reduced signal power from the mobile communication device as suggested by Roach, because it is a common functionality of the mobile switching center to handoff calls to another base station if a signal quality in the current base station is degraded.

However, Sundar, Khartabil, Ibe, Chaskar, and Roach fail to disclose wherein said gateway signals said mobile switching center that a signal of sufficient power has been received via the wireless network. Fors discloses a method for handoff from a cellular wireless network to a non-

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cellular wireless network, e.g. WLAN, and describes access gateways that enable such handoffs (abstract, lines 1-5). As a mobile station moves within the coverage area of the WLAN, the MS performs signal strength measurements and at some point determines that a handoff from serving BS to AP, i.e. wireless network. The processor sends a handing request to CAG, i.e. cellular access gateway, and it sends handoff request, i.e. indication of signal with sufficient power from wireless network, to the MSC to trigger inter-MSC handoff procedures. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention for a gateway to signal said mobile switching center that a signal of sufficient power has been received via the wireless network as suggested by Fors, in order for the MSC to initiate the handoff procedures of a call from a cellular to a wireless network.

17. **Claims 15-18, 34, and 51-54** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in view of Chaskar et al.

**Regarding claim 15**, Sundar discloses a method of roaming between a cellular network and a wireless network comprising the steps of:

receiving a communication over the cellular network, wherein the communication is sent from a mobile communications device engaged in a wireless call over the wireless network; sending an acknowledgement of the communication to the mobile communications device over the cellular network; initiating a handoff, wherein the established wireless call is switched from the wireless network to the cellular network (Fig. 13; p.0077-0078; the mobile station transmit a handoff required message to the source or serving MSC which passes to the target MSC of the cellular network, the message starts the handoff process of the current call from the WLAN to the cellular network).

However, Sundar fails to disclose authenticating the mobile communications device over the cellular network. Chaskar discloses a method to perform handoff of a mobile station from a WLAN

to a cellular network and teaches that the mobile station should first perform authentication and authorization procedures before attempting the inter-technology handoff (p.0020, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to authenticate the mobile communication device over the cellular network as suggested by Chaskar, for authorizing the mobile communication device to communicate over the cellular network.

**Regarding claim 16**, the combination of Sundar and Chaskar disclose method of claim 15, Sundar further discloses wherein the wireless network is configured according to at least one of the 802.11, 802.15.3, or 802.16 communications protocols (p.0021, lines 1-7; a WLAN network according to the 802.xx protocols).

**Regarding claim 17**, the combination of Sundar and Chaskar disclose the method of claim 15, Sundar further discloses wherein said initiating step comprises the step of a mobile switching center sending a communication to a gateway indicating that the mobile communications device has received a signal having a minimum amount of power from the cellular network (p.0078, lines 1-23; the mobile station informs the serving MSC that handoff is required which is an indication that a signal strength of the cellular network has a minimum amount of power that requires handoff, and then the serving MSC sends a handoff request to the to the target MSC, i.e. gateway).

**Regarding claim 18**, the combination of Sundar and Chaskar disclose the method of claim 17, Sundar further discloses wherein said initiating step further comprises the step of setting up a cellular voice link to which the wireless call is switched (p.0078, 35-50; when handoff is completed the mobile station is on a channel with the target or cellular BSC, therefore after handoff is complete the current cal with the WLAN is transferred to the cellular network).

**Regarding claim 34**, Sundar disclose a system for roaming between a cellular network and a wireless network comprising: means for receiving a communication over the cellular network, wherein the communication is sent from a mobile communications device engaged in a wireless call over the wireless network; means for sending an acknowledgement of the communication to the mobile communications device over the cellular network; and means for initiating a handoff, wherein the established wireless call is switched from the wireless network to the cellular network (Fig. 13; p.0077-0078; the mobile station transmit a handoff required message to the source or serving MSC which passes to the target MSC of the cellular network, the message starts the handoff process of the current call from the WLAN to the cellular network).

However, Sundar fails to disclose means for authenticating the mobile communications device over the cellular data network. Chaskar discloses a method to perform handoff of a mobile station from a WLAN to a cellular network and teaches that the mobile station should first perform authentication and authorization procedures before attempting the inter-technology handoff (p.0020, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to include means for authenticating the mobile communication device over the cellular network as suggested by Chaskar, in order to authorize the mobile communication device to communicate over the cellular network.

**Regarding claims 51, 52, 53, and 54**, the claims are rejected over the same reasons stated about claims 15, 16, 17, and 18 accordingly, as they recite the same limitations of claims 15, 16, 17, and 18. See remarks about claims 15, 16, 17, and 18 above.

18. **Claims 19 and 55** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sundar et al. in view of Chaskar et al., and further in view of Pan et al.

**Regarding claim 19**, the combination of Sundar and Chaskar disclose the method of claim 18, but fails to disclose further comprising the step of tearing down a streaming session over which the wireless call took place in the wireless network.

Pan teaches a method and apparatus that enables handover of a mobile station between a cellular network and a wireless network, a media gateway perform handover of a call from one network to another, it establishes two connections simultaneously with both networks (e.g. first call leg and second call leg) and then handovers the communication from the first call leg to the second call leg, and disconnects the first call leg after handover has been completed (abstract; p.0023-0025). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to tear down a streaming session after the handoff is complete as suggested by Pan, because the mobile station does not need to continue the streaming session when handover to the cellular network is successful.

**Regarding claim 55**, the claim is rejected over the same reasons stated about claim 19, as it recites the same limitations of claim 19. See remarks about claim 19 above.

### ***Conclusion***

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

20. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on

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the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marisol Figueroa whose telephone number is (571) 272-7840. The examiner can normally be reached on Monday Thru Friday 8:30 a.m. - 5:00 p.m..

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Marisol Figueroa  
Art Unit 2681

  
LESTER G. KINCAID  
SUPERVISORY PRIMARY EXAMINER